

## ABSTRACT

A contactless sheet resistance measurement apparatus and method for measuring the sheet resistance of upper layer of ultra shallow p-n junction is disclosed. The apparatus comprises alternating light source optically coupled with first transparent and conducting electrode brought close to the wafer, the second electrode placed outside of illumination area. Using the measurement of the surface photovoltage signals inside illuminated area and outside this area and its phase shifts, linear SPV model describing its lateral distribution the sheet resistance and p-n junction conductance is determined.